

REMARKS

Examiner T. Henn is thanked for the thorough examination and search of the subject Patent Application. Claims 1, 26, 35, and 39 have been amended. Claims 2, 5, 11, 24, 25, 27, 34, 37, and 38 have been canceled.

The making FINAL of the Restriction requirement is noted. Non-elected Claims 2, 5, 11, 24, 25, 27, 34, 37, and 38 are hereby canceled. A divisional application will be filed to Claims 2, 5, 11, 24, 25, 27, 34, 37, and 38 once the elected Claims are allowed.

All Claims are believed to be in condition for Allowance, and that is so requested.

Reconsideration of Claims 1, 3, 4, 6, 12, 15, 20, 26, 28, 29, 31, 33, 35, 36, 39, and 40 rejected under 35 U.S.C. 102(b) as being anticipated by Hashimoto (US 4,768,085) in view of Roberts (US 5,541,654) is requested based on Amended Claims 1, 26, 35, and 39, and on the following remarks.

Applicant agrees that Hashimoto teaches an imaging sensing system. Further, Applicant does not believe that Hashimoto

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teaches a color imaging system with the capability of sensing a window, or sub-region, of the overall array as is taught in Applicant's present invention. However, Applicant further believes that Hashimoto in view of Roberts, and particularly Roberts, does not teach or suggest an important feature of Applicant's claimed invention. In particular, Applicant has amended Claims 1, 26, 35, and 39 to include a limitation that the reading and processing of a selected window of the overall array is performed by a programmable digital pattern generator. For example, Claim 1 has been amended as follows:

1. (Currently Amended) A color imaging system for compensating a color response, the system comprising:
 - an array of pixel sensor elements;
 - a color filter including a plurality of color
 - 5 filter components organized in a predefined pattern the color filter overlaying at least a portion of the array, wherein said pixel sensor elements include at least one element associated with a first color filter component, at least one element associated with a second color filter
 - 10 component, and at least one element associated with a third color filter component;
 - a first analog compensation unit coupled to at least

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one element associated with the first color filter component, said first analog compensation unit adapted to
15 modify a readout of the at least one element associated with the first color filter component;

a second analog compensation unit coupled to the at least one element associated with the second color filter component, and second analog compensation unit
20 adapted to modify a readout of the at least one element associated with the second color filter component;

an analog summing amplifier coupled to two elements associated with the third color filter component and outputting an analog sum of said two elements;

25 a third analog compensation unit coupled to said analog sum, said third analog compensation unit adapted to modify a readout of said analog sum; and

an array controller adapted to control the readout of the elements associated with the first, second and third
30 color components wherein said array controller directs said readout of said first, second, and third color filter components in a selected window of said array while other sections of said array are not processed wherein said array controller uses a programmable digital pattern generator to
35 determine said selected window.

Claim 35 has been similarly amended. The method of Claim 26 has been amended as follows:

26. (Currently Amended) A method of compensating a color response in an analog domain of an array of pixel sensor elements, the method comprising:

amplifying an analog output from a plurality of
5 elements of a first color component;

amplifying an analog output from a plurality of
elements of a second color component wherein two said
element outputs are summed together prior to said
amplifying; and

10 generating a compensated analog readout of the
plurality of elements of the first color component wherein
only a selected window of said array is processed while
other sections of said array are not processed wherein said
selected window is determined by a programmable digital
15 pattern generator.

Claim 39 has been similarly amended.

The above recited amended Claims are supported in the original Specification on, for example, page 15, in regards to Fig. 4 wherein it states:

"The system 140 is not limited in its mode of operation and can support windowing and sub-sampling via the programmable readout control circuitry 146, 180, the summing amplifier(s) 154 and the programmable gain amplifiers 156, 166, 172."

Also, pages 19 and 20 describe Fig. 12 that illustrates the readout control circuit 146. The readout control circuit 146 includes a programmable pattern generator 290 where an initial pattern 292 is loaded into a 16-bit pattern generator 294.

By comparison, Hashimoto in view of Roberts does not appear to teach accessing a window, or sub-region, of the overall array using a programmable digital pattern generator. In particular, Roberts teaches accessing each individual pixel via a row and column address. Column 5, rows 24-26 of Roberts states:

"In order to access the individual pixel 40 seen in Fig. 2, a pair of exemplary address traces 56 and 58 respectively extend vertically and horizontally across the array 12. Each pixel in the column of pixels above and below the pixels 40 seen in Fig. 2 is connected with the trace 56. And each pixel in each column of pixels on the

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array 12 is connected to a respective similar address trace for that column. The connectors to the respective address traces for the multitude of columns of pixels on array 12 are seen in Fig. 1 referenced with the numeral 26. In like fashion, the traces 58 connect each row of pixels on the array 12. That is, each row of pixels on the array 12 has a respective address trace. These traces are connected by the connectors seen on Fig. 1 reference with the numeral 28."

As can be seen by the above, Roberts teaches a random access method where each pixel is accessed by its row and column address. By comparison, Applicant's claimed invention teaches selecting a window of pixels via a programmable digital pattern generator. Therefore, Applicant believes that Amended Claims 1, 26, 35, and 39 teach an element not taught in the cited art of Hashimoto and that, on this basis, Claims 1, 26, 35, and 39 should not be rejected under 35 USC 102(b) as being anticipated by Hashimoto in view of Roberts. In addition, Claims 3, 4, 6, 12, 15, 20, 28, 29, 31, 33, 36, and 40 represent patentably distinct, further limitations on Claims 1, 26, 35, and 39 and should not be rejected if the grounds for rejecting Claims 1, 26, 35, and 39 are removed.

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Reconsideration of Claims 1, 3, 4, 6, 12, 15, 20, 26, 28, 29, 31, 33, 35, 36, 39, and 40 rejected under 35 U.S.C. 102(b) as being anticipated by Hashimoto (US 4,768,085) in view of Roberts (US 5,541,654) is requested based on Amended Claims 1, 26, 35, and 39, and on the above remarks.

Reconsideration of Claims 7, 8, 30 and 32 rejected under 35 USC 103(a) as being unpatentable over Hashimoto in view of Roberts and further in view of Boisvert et al (US 5,329,312) is requested based on Amended Claims 1 and 26 and on the following remarks.

As discussed above, Applicant believes that Amended Claims 1 and 26 now include limitations not taught in the cited art of Hashimoto in view of Roberts. Further, it appears to the Applicant that Hashimoto in view of Roberts neither teaches nor suggests the limitation of reading a window or sub-region of the overall array via a programmable digital pattern generator as is taught in Applicant's claimed invention. Further yet, Applicant has reviewed Boisvert et al and believes that this cited art also does not teach or suggest this limitation. Therefore, Applicant believes that the cited art of Hashimoto in view of Roberts and further in view of Boisvert does not teach or suggest Applicant's claimed invention, as recited in Amended

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Claims 1 and 26, such that one of skill in the art could have practiced this invention at the time. In addition, Applicant believes that Claims 7, 8, 30, and 32 represent patentably distinct, further limitations on Claims 1 and 26 that should not be rejected under 35 USC 103(a) as unpatentable over Hashimoto in view of Roberts and further in view of Boisvert et al.

Reconsideration of Claims 7, 8, 30 and 32 rejected under 35 USC 103(a) as being unpatentable over Hashimoto in view of Roberts and further in view of Boisvert et al (US 5,329,312) is requested based on Amended Claims 1 and 26 and on the above remarks.

Reconsideration of Claims 9 and 10 rejected under 35 USC 103(a) as being unpatentable over Hashimoto in view of Roberts in view of Boisvert et al and further in view of Zhou et al (IEEE) is requested based on Amended Claim 1 and on the following remarks.

As discussed above, Applicant believes that Amended Claim 1 now includes a limitation not taught in the cited art of Hashimoto in view of Roberts. Further, it appears to the Applicant that Hashimoto in view of Roberts neither teaches nor suggests the limitation of reading a window or sub-region of the

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overall array as is taught in Applicant's claimed invention.

Further yet, Applicant has reviewed Boisvert et al and believes that this cited art also does not teach or suggest this limitation. Further yet, Applicant has reviewed Zhou et al and believes that this cited art also does not teach or suggest this limitation. Therefore, Applicant believes that the cited art of Hashimoto in view of Roberts in view of Boisvert and further in view of Zhou et al do not teach or suggest Applicant's claimed invention, as recited in Amended Claim 1, such that one of skill in the art could have practiced this invention at the time. In addition, Applicant believes that Claims 9 and 10 represent patentably distinct, further limitations on Claim 1 that should not be rejected under 35 USC 103(a) as unpatentable over Hashimoto in view of Roberts in view of Boisvert et al and further in view of Zhou et al.

Reconsideration of Claims 9 and 10 rejected under 35 USC 103(a) as being unpatentable over Hashimoto in view of Roberts in view of Boisvert et al (US 5,329,312) and further in view of Zhou et al (IEEE) is requested based on Amended Claim 1 and on the above remarks.

Reconsideration of Claim 23 rejected under 35 USC 103(a) as being unpatentable over Hashimoto in view of Roberts as applied

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to Claim 1 above and further in view of Sano et al (IEEE) is requested based on Amended Claim 1 and on the following remarks.

As discussed above, Applicant believes that Amended Claim 1 now includes limitations not taught in the cited art of Hashimoto in view of Roberts. Further, it appears to the Applicant that Hashimoto in view of Roberts neither teaches nor suggests the limitation of reading a window or sub-region of the overall array as is taught in Applicant's claimed invention. Further yet, Applicant has reviewed Sano et al and believes that this cited art also does not teach or suggest this limitation. Therefore, Applicant believes that the cited art of Hashimoto in view of Roberts and further in view of Sano et al does not teach or suggest Applicant's claimed invention, as recited in Amended Claim 1, such that one of skill in the art could have practiced this invention at the time. In addition, Applicant believes that Claim 23 represents a patentably distinct, further limitation on Claims 1 that should not be rejected under 35 USC 103(a) as unpatentable over Hashimoto in view of Roberts and further in view of Sano et al.

Reconsideration of Claim 23 rejected under 35 USC 103(a) as being unpatentable over Hashimoto in view of Roberts as applied

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to Claim 1 above and further in view of Sano et al (IEEE) is requested based on Amended Claim 1 and on the above remarks.

Applicants have reviewed the prior art made of record and not relied upon and have discussed their impact on the present invention above.

Allowance of all Claims is requested.

It is requested that should the Examiner not find that the Claims are now Allowable that the Examiner call the undersigned at 989-894-4392 to overcome any problems preventing allowance.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'SBA', is positioned above the printed name.

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